

REMARKS

Reconsideration of this application, as amended, is respectfully requested. This Amendment is accompanied by a Request for Continued Examination and the related fee. Accordingly, entry and full consideration of this Amendment are respectfully requested.

By this Amendment, independent claims 1 and 9 are being amended to more particularly point out and distinctly claim the subject invention. The addition of "new matter" has been scrupulously avoided. Claims 1-16 remain in this application.

Claims 1 and 5-8 stand rejected under 35 U.S.C. 103(a) as allegedly obvious over Desjoyaux (French patent no. 2,765,909) in view of MacLeod (U.S. patent no. 5,364,204) and Sijpesteijn (U.S. patent no. 5,215,802). Claims 2 and 10 stand rejected on the same grounds, further in view of Raymond (U.S. patent no. 5,007,222); and claims 3, 4, 9 and 11-16 stand rejected on the same grounds as applied to claim 1, further in view of Taylor et al. (U.S. patent no. 4,514,104). These rejections, to the extent they are deemed applicable to the claims as now presented, are respectfully, but most strenuously traversed.

The present invention is directed to panels for constructing swimming pools. More particularly, the present invention relates to panels of the type described in French patent 2,765,909 of which the current Applicants are also the proprietor.

Each panel has a prefabricated structure comprising a flat surface of rectangular over all shape delimited by a peripheral frame comprising planar vertical flanges and horizontal flanges. Each flange extends from a respective edge of said flat surface. One of the planar vertical flanges has spaced apart and distributed over its height, fixing arrangements able to collaborate with complementary arrangements on an other vertical flange of an adjacent panel.

According to Applicant's earlier French patent (see also corresponding U.S. Patent 6,295,771), the fixing arrangements comprise tongues (1j) extending horizontally outward from the one vertical flange and having a catching region (1j2) collaborating with complementary openings formed in the other vertical flange of the adjacent panel. This method of assembly affords significant advantages over earlier assembly systems; however, it is still not entirely satisfactory. For example, in order to engage the tongues in the openings, it is necessary to

present the structure obliquely and to fold it through an angle, with the assembly flanges contiguous. It is also often necessary to use a tool of the pliers type to make sure that the tongues clip perfectly into the openings. This earlier assembly approach also requires the provision of special arrangements to ensure sealing which can create problems of fit tolerance which, after assembly, create problems of flatness on the flat surfaces of the swimming pool.

Starting out from this state of the art, still with the goal of being able to assemble the various panels instantly without the need to employ any attached assembly members, the problem that the current invention sets out to solve is that of simplifying this method of assembly while at the same time having the goal of obtaining a perfectly sealed assembly and perfect flatness after assembly with the possibility of achieving assembly entirely automatically. To solve this problem, the present invention provides panels having a unique coupling structure. According to amended claim 1, each panel has a fixing arrangement comprising anchoring tabs formed in a thickness of and extending coplanar with one planar vertical flange to be engaged in longitudinal centering and guiding shapes belonging to the other vertical flange. Each of the tabs has, on an outwardly oriented face, anchoring roughnesses to collaborate with complementary roughnesses after engagement in the longitudinal centering and guiding shapes, to ensure non-dismantable self-locking. The centering and guiding shapes constitute longitudinally spaced apart wells or sleeves formed as an overspill from a bearing face of the other flange. A longitudinal cross section of the wells or sleeves corresponds approximately to that of the tabs. A part of an outwardly oriented bearing face of the other flange from which the sleeves or wells are formed has the complementary roughnesses so that when the tabs have been engaged in the sleeves by a bearing force exerted in a plane parallel to the vertical flanges, a wedging effect is produced for imbricating the roughnesses. Further, a profiled shape provided along an entire height of the vertical flanges protrudes beyond one of said vertical flanges at a level of the flat surface of the panel, to ensure sealing once the tabs have been engaged in the sleeves or wells.

The earlier French patent does not teach, disclose or suggest any of the above-highlighted features of the claimed panel coupling arrangement or the claimed profiled shape. Likewise, the secondary references, either alone or in combination with the teachings of the primary reference,

fail to teach or suggest the specified features of the swimming pool panel coupling arrangements of the present invention.

Sijpesteijn is directed to a method for constructing floor mats by coupling together parallel elongated rails. As depicted in Fig. 1 of this patent, each rail 2 comprises a receiving portion 3 for receiving a tread member. Receiving portion 3 has a flat bottom surface 10 delimited by upstanding edges 4, 4'. These edges can be considered to correspond to Applicant's claimed planar vertical flanges. Vertical edge 4 is connected by an L-shaped intermediate member 9 to a T-shaped member 8 having an insertion end portion 7. Protrusions 13 are provided on an inner face of T-shaped member 8.

The other vertical edge 4' is part of a U-shaped member 6 extending along the entire length of the rail 2 and forming a female-type connecting element which mates with the insertion end portion 7 of the T-shaped male-type connecting member 8. Protrusions 13 are provided on an inner face of the outer component of the U-shaped member 6. The protrusions on the U-shaped member and T-shaped member create a snap-lock connection when member 7 is inserted into the cavity formed by U-shaped member 6.

In contrast to the claimed invention, insertion end portion 7 of this reference is not formed in a thickness of and does not extend coplanar with planar vertical member 4 but rather is part of a T-shaped extension mounted by an intermediate L-shaped member 9 to an outside face of vertical edge 4. Further protrusions 13 are located on an inwardly oriented face, not an outwardly oriented face of insertion end portion 7. Also U-shaped member 6 extends along the entire length of the rail 2 (see column 3, lines 10-11 of this reference), and, thus, does not constitute the claimed longitudinal centering and guiding shapes nor longitudinally spaced apart wells or sleeves. Moreover protrusions 13 of U-shaped member 6 are not located on the outwardly oriented bearing face of the vertical flange from which the sleeves or wells are formed.

Further, Sijpesteijn does not disclose sleeves which extend entirely away from an edge of the flat surface such that the sleeves are entirely located on an opposite side of the panel relative to the flat surface. Instead, the alleged sleeves in this reference (i.e., U-shaped member 6) does

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not extend entirely in one direction from a flat surface as recited in claim 1. Even if receiving portion 3 was considered to be a flat surface, U-shaped member 6 extends both above and below such flat surface and therefore not entirely away from an edge thereof nor would any alleged sleeve be located entirely on an opposite side of a panel relative to receiving portion 3.

Moreover, there is no disclosure of U-shaped members 6 being longitudinally spaced apart as recited in claim 1. Also, there is no indication in Sijpesteijn that U-shaped member 6 and T-shaped member 8 would be non-dismantleably self-locking. Instead, the tread members would need to be removed to be cleaned as described in lines 12-15 of column 2, for example, and thus the T-shaped member 8 would need to be removed from U-shaped member 6 to allow the tread to be removed.

Applicant respectfully submits that there is no suggestion in these references themselves as to why or how they could be combined. Not only are the fields of endeavor (i.e. panels for swimming pools vs. floor mats) entirely different but also the full rail length connecting approach of the secondary reference is totally foreign from the discrete spaced apart coupling arrangement of the primary French patent.

Moreover, even if the T-shaped projection and U-shaped channel coupling of the secondary reference was applied to the swimming pool panels of the primary reference, the specific coupling features of amended claim 1 would still not result. As described above, there is no disclosure in Sijpesteijn of fixing tabs that are coplanar with the supporting vertical flange. Further, there is no disclosure of providing anchoring roughnesses on an outwardly oriented face of each tab and complementary roughnesses on the part of an outwardly oriented bearing face of an other vertical flange from which spaced apart wells or sleeves are formed. Thus, a combination of this reference with Desjoyaux could not result in these features recited in claim 1. Further, there is not even an allegation of how the floor mat retaining system in Sijpesteijn could be combined with the primary reference, particularly considering that the floor mat retaining system merely retains a mat which is lying on a horizontal surface in contrast to the panels in the present invention which hold vertical walls of a pool together and support the weight of water in such a pool.

The Examiner has included the MacLeod patent in the rejection asserting that it shows centering and guiding shapes (30) which constitute longitudinally spaced apart wells extending entirely away from an edge of flat surface (14). However, MacLeod fails to overcome the other noted deficiencies of the above-described combination of references.

The male components which fit in the wells (30) of the ground cover unit (12) of the MacLeod reference are not shown in the drawings of that patent but are specified as being "complementary in shape to the female components (30) so as to locate therein for interlocking purposes". (column 3, lines 52-56 of the reference) Since the wells or female components (30) of this reference extend outwardly for a significant distance beyond the edge of the cover unit (12), it is apparent that the complementary shaped male component is not coplanar with a vertical edge of an adjacent ground cover unit (12).

In the Final Office Action, the Examiner also referred to the Taylor reference as allegedly showing Applicant's claimed tabs. However, the "tabs" or depending legs (24, 26, 36 and 38) of this reference are used to connect a top horizontal tile (10) to a vertical side support (12) or multiple side supports end-to-end in a vertical plane. Such tabs are not used to connect adjacent vertical supports; rather the structure shown in cross-section in Figure 3 of this reference is used for that purpose.

Applicants respectfully submit that there is no suggestion in these references themselves as to why or how they should be combined. Furthermore, the combined teachings of the references would still not produce the swimming pool panels as now defined by amended independent claim 1.

None of the applied references recognize the limitations of prior swimming pool panels addressed by the present invention. None of the applied secondary references even relate to swimming pool panels. Rather, these references are directed to a floor mat, a cover for an area of ground and to a self-supporting element for mosaic display panel. Accordingly, there would be no reason for one skilled in the art to combine these references with each other or the basic Desjoux reference. Instead, the selection and combination of these features is the result of impermissible hindsight reasoning based on the features recited in the claims of the present

application, and such a combination is improper. Applicants further submit that the multiplicity of references employed in the rejection and their distinct fields of application belie the obviousness of this rejection.

Dependent claims 2-8 are allowable for the same reasons as independent claim 1 from which they all ultimately depend, as well as for their additional limitations.

With regard to claim 3 which specifies that the anchoring tabs result from two parallel, full depth cut-outs formed at right angles from a longitudinal edge of the one vertical flange, the Examiner refers to Figure 2 of the Taylor et al. patent. However, the tabs apparently referred to by the Examiner are not used to couple adjacent vertical members. Rather, each side wall is provided with a full height longitudinally extending, limited depth channel 70 and an outwardly projecting guide 72. Guide 72 fits within a channel 70 of an adjacent side wall as shown in the cross sectional view of Figure 3 of this reference. Accordingly, there is no suggestion in the Taylor et al. reference of Applicant's claimed anchoring tabs for coupling adjacent vertical flanges.

Like claim 3, independent claim 9 specifies that one of the vertical flanges of a panel has distributed over its height, fixing tabs each resulting from two parallel cut-outs formed perpendicularly from a free edge of the flange. The tabs are configured to be engaged in spaced apart sleeves of an other vertical flange of an adjacent panel. Juxtaposed assembly of the panels to produce swimming pool is made by interconnecting the vertical flanges of adjacent panels. Anchoring asperities on an outwardly oriented face of each tab cooperate with complementary asperities formed directly on a part of the other vertical flange delimited by side edges of individual sleeves. This combination of features is conspicuously absent from the teachings of the applied prior art, considered alone or in combination. Further, claim 9 specifies that a bead formed at a juncture of the adjacent vertical flanges with the flat surface of the prefabricated structure provides a sealing profile after engagement of the tabs and the sleeves. The latter feature which is important for forming a sealed swimming pool structure is not suggested by the prior art. In fact, Sijpesteijn provides holes 16 in his mat structure for drainage of water.


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The combined teachings of the applied references fail to disclose or suggest the specified fixing tabs which in conjunction with the particular sleeves cooperate to interconnect vertical flanges of adjacent panels to produce a swimming pool, as defined by amended independent claim 9. Again, these references themselves fail to recognize the problem addressed by the present invention, the benefits realized thereby, or any motivation to combine their teachings in a manner which would produce the claimed invention. Dependent claims 10-16 are allowable for the same reasons as independent claim 9 from which they all ultimately depend, as well as for their additional limitations.

In conclusion, Applicants submit that the combination of references is, at best, tenuous and would still not produce the invention as presently claimed. Applicants have devised unique coupling and sealing arrangement for swimming pool panels which provides a significant advance in this art, worthy of patent protection.

If it would advance the prosecution of this application, the Examiner is respectfully requested to contact Applicants' attorney at the below indicated telephone number.

Respectfully submitted,

  
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